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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁷ : C23C 30/00, G01K 11/20, 11/32</p>	<p>A1</p>	<p>(11) International Publication Number: WO 00/06796 (43) International Publication Date: 10 February 2000 (10.02.00)</p>
<p>(21) International Application Number: PCT/GB99/02413 (22) International Filing Date: 26 July 1999 (26.07.99) (30) Priority Data: 9816348.8 27 July 1998 (27.07.98) GB 9823749.8 29 October 1998 (29.10.98) GB (71) Applicant (for all designated States except US): IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE [GB/GB]; Sherfield Building, Exhibition Road, London SW7 2AZ (GB). (72) Inventors; and (73) Inventors/Applicants (for US only): CHOY, Kwang-Leong [MY/GB]; 35 Blondvil Street, Cheylesmore, Coventry CV3 5EQ (GB). HEYES, Andrew, Lawrence [GB/GB]; 13 Spencers Lane, Cookham, Berkshire SL6 9JX (GB). FEIST, Joerg [DE/GB]; 67 Morley Road, Stratford, London E15 3HF (GB). (74) Agent: TURNER, James, Arthur, D. Young & Co., 21 New Fetter Lane, London EC4A 1DA (GB).</p>		<p>(81) Designated States: CA, JP, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i></p>
<p>(54) Title: THERMAL BARRIER COATING WITH THERMOLUMINESCENT INDICATOR MATERIAL EMBEDDED THEREIN</p>		
<p>(57) Abstract</p> <p>A coating material (20) for coating a machine component (10), especially a gas turbine or a part thereof, comprises a mixture of at least a refractory material and an indicator material having an optical emission (e.g. fluorescence) spectrum which varies in response to a physical parameter of the coated component. In a preferred embodiment, the coating consists of yttrium aluminium garnet (YAG) or yttrium stabilised zirconium. The dopant is preferably a rare earth metal, e.g. Eu, Tb, Dy.</p> <div data-bbox="391 743 841 923"> <p>The diagram shows a rectangular component labeled 10. A thick, textured layer labeled 20 is applied to the top and side surfaces of component 10, representing the thermal barrier coating.</p> </div>		